

Illustrations and Discussions on Type-specimens of Gelechiidae (Lepidoptera) described by A. Caradja

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Abstract Male or female genitalia of 21 species of Gelechiidae described by A. Caradja are dissected and illustrated, with discussion on 34 type-specimens for their taxonomic status: five species are newly combined, and five species are proposed to be new synonyms.

Keywords Systematics, Lepidoptera, Gelechiidae, Caradja's collection

INTRODUCTION

With my interest for the type material, mainly species of Gelechiidae (Lepidoptera), described by A. Caradja during the 1930', I visited "Grigore Antipa" Museum of Natural History in Bucharest, Rumania, for the examination of his type specimens of Gelechiidae (Lepidoptera) from 4th to 8th February, 1996. The museum, one of the well known Natural History Museum, was established at 1834, and now it is located in the center of the city, preserving a lot of valuable materials, for example the skeleton of the gigantic fossil elephant, "*Deinotherium gigantissimum*", height of 4.5 m, which had lived 10 million years ago. Regarding to the collection of insects, lepidopterous collection is about 250,000 specimens of 20,000 species, and 7,500 type specimens of insects, 90% of them are Lepidoptera. One of the most interesting materials, especially for me, is the microlepidoptera of the Chinese specimens which were mostly collected by H. Höne and studied by A. Caradja. However, some of the species described (here I referred only gelechiids) by him were already synonymized, or nobody examined or compared the types with that of allied species. For the understanding of his early works on the Lepidoptera, I shortly introduce him and his activities during his life.

Aristide Caradja was born on 28th September, 1861, in Dresden (Germany), as the seventh son of a Rumanian noble family. He was sent to France to study law by his parents, but he was much interested in and studied zoology, botany, geology and palaeontology. During that time he published his first paper on Lepidoptera with 848 species and 149 varieties collected by himself or with the French entomologist, A. d'Abuisson. After the death of his father (1887), he removed to Grumazesti, near Tirgu Neamt, in his own country, a small house which belonged to his family, surrounded by a large park. He made a lot of experience regarding host plants, life cycles of species, and began to establish scientific contacts with

different European specialists; Lord Walsingham and Edward Meyrick. The first part of the catalogue of Rumanian Microlepidoptera was initiated by him in 1899 and then "Die Microlepidoptera Rumaniens" appeared in 1901 and 1903. He did not collect himself in China, but he studied the Chinese fauna of Lepidoptera from 1928, based on materials collected by M. G. Frank, H. Humel, J. B. Corporal, and the study of the Chinese microlepidoptera was initiated in 1932 with specimens collected by H. Höne. More than 100,000 specimens were collected by H. Höne in the provinces: Setschwan, Kwanhsien, Mokanshan, Kwantung, Kiangsu, Chekiang, Hunan, Atuntse, N. Fukien, Shantung, Shansi, and Taiwan. One of the little known papers by him was "The origin and the evolution of the Palaearctic Lepidoptera fauna" (1934) in German.

Twenty-two papers based on these materials by himself or in cooperation with E. Meyrick represented an almost complete collection of Asian Pyralidae at that time. During his life, A. Caradja studied more than 400,000 specimens of Macro- and Microlepidoptera, with description of over 1,000 species, subspecies and varieties. His collection enumerated about 125,000 specimens of Lepidoptera from Europe, Asia, N America and S America. More than 3,000 Lepidoptera in the Caradja collection in Bucharest, Rumania, are type specimens. In 1943, A. Caradja left Grumazesti due to the the 2nd World War, and his collection with his library were removed to the present "Grigore Antipa" Museum of Natural History, in Bucharest, for the safe keeping against the foreign invaders in 1944. A. Caradja died in Bucharest, at the age of 94, on 29th May, 1955.

Type specimens of Gelechiidae described by A. Caradja are deposited with some of Meyrick's and Walsingham's types. All the type specimens arranged in systematic orders with their own number, Gelechiidae starting from No. 176309 to No. 176480, and preserved well in wooden-cabinets at the first floor of the museum. Most of them were already designated lectotypes by Dr. Popescu-Gorj (1992), but a few taxa lectotypes were published before it, e.g. *hilarella* by Englert in 1974. Eleven species were previously examined and dissected by K. Sattler, O. Karsholt, Povolny, and L. Gozmany, and 21 species were dissected by the author, except 3 species missing abdomen. Some of the species which were previously transferred to other families, e.g. *decolorella* ab. *colorella* Caradja, *sikkimella* Caradja, and *tenebrionellus crepusculellus* Caradja to Lecithoceridae, are excluded in this discussion. For the examination of the genitalia of type species, abdomens of the type-specimens, holotype or lectotype, were detached and borrowed but some paralectotypes were selected when the abdomen of the holotypes or lectotypes are missing. The genitalia were dissected and examined, and then made preparad-slides, using Euparal as mounting liquid, with numbers from CIS-4204 to CIS-4222. The type species in this article were arranged according to the own number of the type-numbers of the museum from No. 176309 to No. 176483. All slides for type-specimens will be returned and placed in the museum with specimens.

List of Speces of Gelechiidae described by A. Caradja

1. *coeruleopictella* Caradja, 1920 - No. 176309

Dt. ent. Z. Iris 34: 106-107 (*Xystophora*); Bryk, 1937: 50 (*Aristotelia*); Popescu-Gorj, 1992: 145.

Lectotype, male, Kasakewitsch, near Chabarovsk, Russian Far East.

- Unfortunately, abdomen of the type is missing.

- ***Aristotelia coeruleopictella* (Caradja, 1920)**

2. *Anacampsis maraschella* Caradja, 1920 - No. 176316 (Figs 1-3)

Dt. ent. Z. Iris 34: 107-108 (*Anacampsis*); Bryk, 1937: 330 (*Stomopteryx*); Popescu-Gorj, 1992: 162.

Holotype, male, Marasch, Asia Minor; based on a single male.

- ***Stomopteryx maraschella* (Caradja, 1920)**

3. *Anacampsis ussuriella* Caradja, 1920: 108 - No. 176317 (Figs 4-6)

Dt. ent. Z. Iris 34: 108 (*Anacampsis*); Bryk, 1937: 330 (*Stomopteryx*); Popescu-Gorj, 1992: 181.

Lectotype, male, Kasakewitsch, near Chabarovsk, Russian Far East; further 6 males of paralectotype are available.

- ***Syncopacma ussuriella* (Caradja, 1920), comb. nov.** (K. Sattler, pers. comm.).

4. *Anacampsis polychromella* var. *rebeliella* Caradja, 1920 - No. 176318 (Fig. 7)

Dt. ent. Z. Iris 34: 109 (*Anacampsis*); Bryk, 1937: 332 (*Stomopteryx*); Popescu-Gorj, 1992: 169.

Lectotype, female, Marasch, Asia Minor; further a female paralectotype is available.

- *rebeliella* Caradja has been considered as a junior synonym of *polychromella* Rebel, but Karsholt (pers. comm.) suggested that it is wondered if it is a synonym of the latter.

- ***Syncopacma polychromella* (Rebel, 1902)**

5. *Aristotelia bolschewickiella* Caradja, 1920 - No. 176332

Dt. ent. Z. Iris 34: 109 (*Aristotelia*); Bryk, 1937: 49 (*Aristotelia*); Popescu-Gorj, 1992: 139.

Lectotype, male, Uralsk- gen. prep. no. 4082/Karsholt; further 4 males of paralectotype are available.

- ***Stomopteryx bolschewikiella* (Caradja, 1920), comb. nov.** (K. Sattler, pers. comm.).

6. *Aristotelia ericinella* ab. *silendrella* Caradja, 1920- No. 176334 (Figs 8-11)

Dt. ent. Z. Iris 34: 109 (*Aristotelia*); Bryk, 1937: 56 (*Aristotelia*); Popescu-Gorj, 1992: 150.

Lectotype, male, Sylt, N Germany; based on a single male.

- *silendrella* Caradja is conspecific with *ericinella* Duponchel, from the result of comparison of their male genitalia; an unavailable, infrasubspecific name.

- A synonym (**syn.nov.**) of ***Aristotelia ericinella* Duponchel, 1838**

7. *Stenolechia sagittella* Caradja, 1920 - No. 176340

Dt. ent. Z. Iris 34: 110 (*Stenolechia*); Bryk, 1937: 91 (*Stenolechia*).

Holotype, male, Marasch, Asia Minor, abdomen missing; based on a single male.

- *sagittella* Caradja has been considered as a junior synonym of *mersinella* Staudinger (K. Sattler, pers. comm.). K. Sattler (pers. comm.) suggested that the species should be transferred to the genus *Carpatolechia*, but it has not been used either in Europe and in E. Asia. Popescu-Gorj did not list this species in his catalogue.

- ***Stenolechia mersinella* (Staudinger, 1880)**

= *Sagittella* Caradja, 1920

8. *Metzneria hilarella* Caradja, 1920 - No. 176344

Dt. ent. Z. Iris 34: 95; (*Metzneria*); Bryk, 1937: 16 (*Metzneria*); Englert, 1974: 404; Popescu-Gorj, 1992: 155.

Lectotype, male, "Cuenca VI Korb", E Spain-gen. prep. no. 446/Englert; further 2 males of paralectotype, "Cuenca VI Korb" are available.

- ***Metzneria hilarella* Caradja, 1920**

9. *Gelechia muscosella* var. *griseella* Caradja, 1920 - No. 176357 (Figs 12-13)

Dt. ent. Z. Iris 34: 96 (*Gelechia*); Bryk, 1937: 121 (*Gelechia*); Popescu-Gorj, 1992: 164.

Lectotype, male, Radde, Kasakewitsch, near Chabarovsk, Russian Far East; based on 2 males & 3 females of paralectotypes are available.

- Male genitalia of *griseella* Caradja is very similar to that of *muscosella* Zeller, which was described from middle Europe, and a few differences are found, but the shape of 8th sternite shows a good difference: length is shorter than width. It is considered to be a good species.

- ***Gelechia griseella* Caradja, 1920**

10. *Gelechia tristis* Caradja (a wrong citation of Staudinger) - No. 176361

Dt. ent. Z. Iris 34: 98 (*Gelechia*); Bryk, 1937: 330, as Staudinger (*Gelechia*); Popescu-Gorj, 1992: 179.

Holotype, male, abdomen missing, Amasia, Asia Minor.

- Author of *tristis* was erroneously cited as "Caradja" by Popescu-Gorji (1992: 179), but the author is Staudinger. *tristis* Staudinger has been considered as a junior synonym of *aethiops* Westwood which was known from M. Europe, UK, and Amur.

- ***Xenolechia aethiops* (Westwood, 1851)**

= *tristis* Staudinger, 1880

11. *Gelechia selectella* Caradja, 1920 - No. 176365

Dt. ent. Z. Iris 34: 99 (*Gelechia*); Bryk, 1937: 210 (*Gelechia*); Popescu-Gorj, 1992: 173.

Lectotype, male, Uralsk-gen. prep. no. 4081/Karsholt, allotype (28. V. 1907), gen. prep. no. 4084/Karsholt; further 4 males and 2 females of paralectotype are available.

- ***Scrobipalpa selectella* (Caradja, 1920)**

12. *Gelechia incognitella* Caradja, 1920 - No. 176369 (Figs 26-27)

Dt. ent. Z. Iris 34: 100 (*Gelechia*); Bryk, 1937: 330 (*Telphusa*); Popescu-Gorj, 1992: 156.
Holotype, male, Kasakewitsch, near Chabarovsk, Russian Far East; based on a single male.

- The holotype is erroneously indicated as a male by Caradja, but a female. *Telphusa necromantis* (Meyrick, 1926), which was described from Japan on the basis of a single female, is identical to this species, according to the result of the comparison of the female genitalia.

- ***Telphusa incognitella* (Caradja, 1920)**
= *necromantis* (Meyrick, 1926), **syn. nov.**

13. *Lita atriplicella* var. *clarella* Caradja, 1920 - No. 176380 (Figs 23-25)

Dt. ent. Z. Iris 34: 100 (*Lita*); Bryk, 1937: 251 (*Phthorimaea*); Popescu-Gorj, 1992: 137.
Lectotype, male, Andalusia, Granada; further 8 males and a female of paralectotype are available.

- *clarella* Caradja is considered to be a junior synonym of *ocellatella* Boyd. (K. Sattler, pers. comm.); an unavailable, infrasubspecific name.
- A synonym (**syn. nov.**) of ***Scrobipalpa ocellatella* (Boyd, 1858)**

14. *Lita cephalella* Caradja, 1920 - No. 176391

Dt. ent. Z. Iris 34: 101 (*Lita*); Bryk, 1937: 238 (*Stegasta*); Popescu-Gorj, 1992: 142.
Lectotype, male, Uralsk- gen. prep. no. 3000/Povolny; a female paralectotype is available.

- *cephalella* Caradja is considered to be a junior synonym of *pseudolella* Christoph (K. Sattler, pers. comm.).
- ***Evippe pseudolella* (Christoph, 1888), comb. nov.**
= *cephalella* Caradja, 1920, **syn. nov.**

15. *Lita conjugella* Caradja, 1920 - No. 176393

Dt. ent. Z. Iris 34: 101 (*Lita*); Bryk, 1937: 238 (*Stegasta*); Popescu-Gorj, 1992: 145.
Lectotype, male, Alai Mountains in Central Asia- gen. slide no. 2199/Povolny.

- ***Evippe conjugella* (Caradja, 1920).**

16. *Lita caliacrae* Caradja, 1932 - No. 176404

Bull. Sect. sc. Acad. Rom. 15, 1-2: 43 (*Lita*); Bryk, 1937: 253 (*Phthorimaea*); Popescu-Gorj, 1992: 140.
Holotype, male, Caliacra, Balcic, Rumania, gen. prep. no. 2192/Povolny.

- ***Scrobipalpa caliacrae* (Caradja, 1932)**

17. *Teleia triparella* var. *sultanella* Caradja, 1920 - No. 176409

Dt. ent. Z. Iris 34: 104 (*Teleia*); Bryk, 1937: 140 (*Telphusa*); Popescu-Gorj, 1992: 179.
Lectotype, male, Anatolien, Ak Chehir, Asia Minor- gen. slide no. 4085/Karsholt; based on a single male.

- ***Teleiodes paripunctella* (Thunberg, 1794)**

18. *Teleia myricariella* var. *arenicolella* Caradja, 1920 - No. 176411 (Fig. 22)

Dt. ent. Z. Iris 34: 104 (*Teleia*); Bryk, 1937: 129 (*Telphusa*); Popescu-Gorj, 1992: 165.

Lectotype, male, Biskra, Algeria; further 5 males of paralectotypes are available.

- *arenicolella* Caradja is considered to be a junior synonym of *myricariella* Frey (K. Sattler, pers. comm.); an unavailable, infrasubspecific name. The lectotype is erroneously indicated as a male, but female. According to the female genitalia, it belongs to *Teleiodes*-complex. K. Sattler (pers. comm.) suggested that the species should be transferred to *Istrianis*. However, the status of the genus is in need of revision, because it has not been known either in Europe or in E. Asia.

- A synonym (**syn. nov.**) of *Telphusa myricariella* (Frey, 1870)

19. *Teleia korbi* Caraja, 1920 - No. 176413

Dt. ent. Z. Iris 34: 105 (*Teleia*); Bryk, 1937: 62 (*Aristotelia*); Popescu-Gorj, 1992: 159.

Holotype, male, Kasakewitsch, near Chabarovsk, Russian Far East: gen. prep. no. 616a/Sattler; based on a single male.

- *Deltophora korbi* (Caradja, 1920)

20. *Tachyptilia lugens* Caradja, 1920 - No. 176416

Dt. ent. Z. Iris 34: 105 (*Tachyptilia*); Bryk, 1937: 364 (*Anacampsis*); Popescu-Gorj, 1992: 161.

Lectotype, male, Kasakewitsch, near Chabarovsk, Russian Far East- gen. prep. no. 633c/Sattler; allotype, female, gen. prep. no. 633d/Sattler; based on a male and a female.

- *Anacampsis populella* (Clerk, 1760)

21. *Tachyptilia suberiella* Caradja, 1920 - No. 176418 (Fig. 32)

Dt. ent. Z. Iris 34: 105 (*Tachyptilia*); Bryk, 1937: 366 (*Anacampsis*); Popescu-Gorj, 1992: 174.

Lectotype, male, Saugnacq (Landes), France; allolectotype (5. VII. 1901)- gen. slide no. 634d/Sattler; further 8 males of paralectotype are available.

- *suberiella* Caradja is considered to be a junior synonym of *timidella* Wocke (K. Sattler, pers. comm.)

- *Anacampsis timidella* (Wocke, 1887)

= *suberiella* Caradja, 1920, **syn. nov.**

22. *Tachyptilia panormitella* Caradja, 1920 - No. 176421

Dt. ent. Z. Iris 34: 106 (*Tachyptilia*); Bryk, 1937: 364 (*Compsolechia*); Popescu-Gorj, 1992: 167.

Lectotype, female, Brussa, Asia Minor-gen. slide no. 634b/Sattler; further a female paralectotype is available.

- Taxonomic status of *panormitella*, as a good species, is still in doubt.

- *Anacampsis panormitella* (Caradja, 1920), **comb. nov.**

23. *Mesophleps pudicellus* var. *apicellus* Caradja, 1920 - No. 176424 (Fig. 40)

Dt. ent. Z. Iris 34: 100 (*Gelechia*); Bryk, 1937: 330 (*Telphusa*); Popescu-Gorj, 1992: 156.
Holotype, male, Kasakewitsch, near Chabarovsk, Russian Far East; based on a single male.

- The holotype is erroneously indicated as a male by Caradja, but a female. *Telphusa necromantis* (Meyrick, 1926), which was described from Japan on the basis of a single female, is identical to this species, according to the result of the comparison of the female genitalia.

- ***Telphusa incognitella* (Caradja, 1920)**
= *necromantis* (Meyrick, 1926), **syn. nov.**

13. *Lita atriplicella* var. *clarella* Caradja, 1920 - No. 176380 (Figs 23-25)

Dt. ent. Z. Iris 34: 100 (*Lita*); Bryk, 1937: 251 (*Phthorimaea*); Popescu-Gorj, 1992: 137.
Lectotype, male, Andalusia, Granada; further 8 males and a female of paralectotype are available.

- *clarella* Caradja is considered to be a junior synonym of *ocellatella* Boyd. (K. Sattler, pers. comm.); an unavailable, infrasubspecific name.
- A synonym (**syn. nov.**) of ***Scrobipalpa ocellatella* (Boyd, 1858)**

14. *Lita cephelella* Caradja, 1920 - No. 176391

Dt. ent. Z. Iris 34: 101 (*Lita*); Bryk, 1937: 238 (*Stegasta*); Popescu-Gorj, 1992: 142.
Lectotype, male, Uralsk- gen. prep. no. 3000/Povolny; a female paralectotype is available.

- *cephalella* Caradja is considered to be a junior synonym of *pseudolella* Christoph (K. Sattler, pers. comm.).
- ***Evippe pseudolella* (Christoph, 1888), comb. nov.**
= *cephalella* Caradja, 1920, **syn. nov.**

15. *Lita conjugella* Caradja, 1920 - No. 176393

Dt. ent. Z. Iris 34: 101 (*Lita*); Bryk, 1937: 238 (*Stegasta*); Popescu-Gorj, 1992: 145.
Lectotype, male, Alai Mountains in Central Asia- gen. slide no. 2199/Povolny.

- ***Evippe conjugella* (Caradja, 1920).**

16. *Lita caliacrae* Caradja, 1932 - No. 176404

Bull. Sect. sc. Acad. Rom. 15, 1-2: 43 (*Lita*); Bryk, 1937: 253 (*Phthorimaea*); Popescu-Gorj, 1992: 140.
Holotype, male, Caliacra, Balcic, Rumania, gen. prep. no. 2192/Povolny.

- ***Scrobipalpa caliacrae* (Caradja, 1932)**

17. *Teleia triparella* var. *sultanella* Caradja, 1920 - No. 176409

Dt. ent. Z. Iris 34: 104 (*Teleia*); Bryk, 1937: 140 (*Telphusa*); Popescu-Gorj, 1992: 179.
Lectotype, male, Anatolien, Ak Chehir, Asia Minor- gen. slide no. 4085/Karsholt; based on a single male.

- ***Teleiodes paripunctella* (Thunberg, 1794)**

18. *Teleia myricariella* var. *arenicolella* Caradja, 1920 - No. 176411 (Fig. 22)

Dt. ent. Z. Iris 34: 104 (*Teleia*); Bryk, 1937: 129 (*Telphusa*); Popescu-Gorj, 1992: 165.

Lectotype, male, Biskra, Algeria; further 5 males of paralectotypes are available.

- *arenicolella* Caradja is considered to be a junior synonym of *myricariella* Frey (K. Sattler, pers. comm.); an unavailable, infrasubspecific name. The lectotype is erroneously indicated as a male, but female. According to the female genitalia, it belongs to *Teleiodes*-complex. K. Sattler (pers. comm.) suggested that the species should be transferred to *Istrianis*. However, the status of the genus is in need of revision, because it has not been known either in Europe or in E. Asia.
- A synonym (**syn. nov.**) of *Telphusa myricariella* (Frey, 1870)

19. *Teleia korbi* Caraja, 1920 - No. 176413

Dt. ent. Z. Iris 34: 105 (*Teleia*); Bryk, 1937: 62 (*Aristotelia*); Popescu-Gorj, 1992: 159.

Holotype, male, Kasakewitsch, near Chabarovsk, Russian Far East: gen. prep. no. 616a/Sattler; based on a single male.

- *Deltophora korbi* (Caradja, 1920)

20. *Tachyptilia lugens* Caradja, 1920 - No. 176416

Dt. ent. Z. Iris 34: 105 (*Tachyptilia*); Bryk, 1937: 364 (*Anacamptis*); Popescu-Gorj, 1992: 161.

Lectotype, male, Kasakewitsch, near Chabarovsk, Russian Far East- gen. prep. no. 633c/Sattler; allotype, female, gen. prep. no. 633d/Sattler; based on a male and a female.

- *Anacamptis populella* (Clerk, 1760)

21. *Tachyptilia suberiella* Caradja, 1920 - No. 176418 (Fig. 32)

Dt. ent. Z. Iris 34: 105 (*Tachyptilia*); Bryk, 1937: 366 (*Anacamptis*); Popescu-Gorj, 1992: 174.

Lectotype, male, Saugnacq (Landes), France; allolectotype (5. VII. 1901)- gen. slide no. 634d/Sattler; further 8 males of paralectotype are available.

- *suberiella* Caradja is considered to be a junior synonym of *timidella* Wocke (K. Sattler, pers. comm.)
- *Anacamptis timidella* (Wocke, 1887)
= *suberiella* Caradja, 1920, **syn. nov.**

22. *Tachyptilia panormitella* Caradja, 1920 - No. 176421

Dt. ent. Z. Iris 34: 106 (*Tachyptilia*); Bryk, 1937: 364 (*Compsolechia*); Popescu-Gorj, 1992: 167.

Lectotype, female, Brussa, Asia Minor-gen. slide no. 634b/Sattler; further a female paralectotype is available.

- Taxonomic status of *panormitella*, as a good species, is still in doubt.
- *Anacamptis panormitella* (Caradja, 1920), **comb. nov.**

23. *Mesophleps pudicellus* var. *apicellus* Caradja, 1920 - No. 176424 (Fig. 40)

Dt. ent. Z. Iris 34: 113 (*Mesophleps*); Bryk, 1937: 458 (*Cymotricha*); Popescu-Gorj, 1992: 161.
Lectotype, female, Sierra Nevada, SE Spain.

- *apicellus* Caradja is considered to be a junior synonym of *pudicellus* Mann. (K. Sattler, pers. comm.) and *pudicellus* Mann have been placed in *Cymotricha* (Meyrick, 1925; Bryk, 1937) which was synonymized with *Dichomeris*. However, according to the female genitalia of the lectotype of *apicellus*, it is not certainly belong to *Dichomeris-complex*. Thus, the taxonomic status of *apicellus* Caradja is still in uncertainty. This species was missed in listing by Popescu-Gorj (1992), but the lectotype is in the collection.
- A synonym (**syn. nov.**) of *Mesophleps*(?) *pudicellus* Mann

24. *Nothris chinganella* var. *fuscanella* Caradja, 1920 - No. 176428 (Figs 33-34)

Dt. ent. Z. Iris 34: 115 (*Nothris*); Bryk, 1937: 295 (*Nothris*); Popescu-Gorj, 1992: 143.
Lectotype, male, Darjeel (=Darjiling), near Sikkim, N. India.

- In comparison of the male genitalia of the lectotype with those of *chinganella* Christoph collected from Vladivostok, they are obviously different each other. The specimen (of *chinganella*) examined is in a bad condition with a label handwritten by Christoph in Dr. Ponomarenko's collection. According to Dr. Ponomarenko (pers. comm.), *Dichomeris strictella* Park is conspecific to *D. chinganella* Christoph in the male genitalia. Thus, I propose *D. strictella* Park (**syn. nov.**) is a junior synonym of the latter. It is considered that *fuscanella* coradja is a good species.
- ***Dichomeris fuscanella* (Caradja, 1920)**

25. *Sophronia alaicella* Caradja, 1920 - No. 176430 (Figs 44-47)

Dt. ent. Z. Iris 34: 116 (*Sophronia*); Bryk, 1937: 312 (*Sophronia*); Popescu-Gorj, 1992: 134.
Lectotype, male, Alai Mountains in Central Asia; further 4 males of paralectotype are available.

26. *Paltodera striatella* var. *substriaella* Caradja, 1920 - No. 176439 (Figs 28-29)

Dt. ent. Z. Iris 34: 113 (*Paltodera*); Bryk, 1937: 36 (*Isophrictis*); Karsholt, 1978: 10; Popescu-Gorj, 1992: 174.
Lectotype, male, Lambese, Algeria, N. Africa; further 9 males and 5 females of paralectotype are available.

- In the comparison of the male genitalia of the lectotype with a European specimen (Eger, Tihamer, Reskovits, 26. VI. 1972 (M. Reskovits leg.), those of *striatella* (Den. & Schiff.) and figures of *anthemidella* (Wocke) given by Karsholt (1978) are very similar each other, but *substriaella* Caradja can be separated from the latter by the shape of aedeagus: distal part of aedeagus shorter, without a short process preapically, than that of *anthemidella*, but longer than that of *striatella*. The taxonomy of W. Palaearctic *Isophrictis* is in need of critical revision.
- ***Isophrictis substriaella* (Caradja, 1920)**

27. *Megacraspessus* (?) *cuencellus* Caradja, 1920 - No. 176433 (Figs 50-52)

Dt. ent. Z. Iris 34: 117 (*Megacrapedes*); Bryk, 1937: 26 (*Megacrapedes*); Popescu-Gorj, 1992: 146.
Holotype, male, Cuenca, Spain; based on a single male.

28. *Megacraspedus imparellus* var. *majorella* Caradja, 1920 - No. 176434 (Figs 35-36)

Dt. ent. Z. Iris 34: 117 (*Megacrapedes*); Bryk, 1937: 28 (*Megacrapedes*); Popescu-Gorj, 1992: 156.
Lectotype, male, Alai Mountains in Central Asia; based on 2 males.

- The genital structure of *majorella* Caradja differs from that of *imparellus* Fisher v. Roslerst, which was described from S. Europe: uncus larger and broader, with lateral margins almost parallel; gnathos thicker and longer; valva much less to exceed apex of uncus, whereas almost equal level to apex in *imparellus*. It is considered that *majorella* Caradja is a good species, but the generic status of this species is still in doubt.

- *Megacraspedus* (?) *majorella* (Caradja, 1920)

29. *Megacraspedes consortiella* Caradja, 1920 - No. 176436 (Figs 41-42)

Dt. ent. Z. Iris 34: 117 (*Megacrapedes*); Bryk, 1937: 26 (*Megacrapedes*); Popescu-Gorj, 1992: 145.
Holotype, male, Alai Mountains in Central Asia; based on a single male.

30. *Brachmia impunctella* Caradja, 1920 - No. 176452 (Fig. 40)

Dt. ent. Z. Iris 34: 111-112 (*Brachmia*); Bryk, 1937: 538 (*Brachmia*); Popescu-Gorj, 1992: 156.
Holotype, female, Kasakewitsch, near Chabarovsk, Russian Far East; based on a single female.

- *Aristotelia impunctella* (Caradja, 1920), **comb. nov.**

31. *Brachmia* (?) *hedemanni* Caradja, 1920 - No. 176453 (Figs 48-49)

Dt. ent. Z. Iris 34: 112 (*Brachmia*); Bryk, 1937: 538 (*Brachmia*); Popescu-Gorj, 1992: 154.
Lectotype, male, Dajeel (=Darjiling), near Sikkim, N. India.

- According to the male genitalia of the lectotype, this species is not certainly belong to the genus *Brachmia*. The taxonomic status of this species is in need of revision.

32. *Mystax trichoma* Caradja, 1920 - No. 176482

Dt. ent. Z. Iris 34: 136 (*Mystax*); Bryk, 1937: 307 (*Thiotricha*); Popescu-Gorj, 1992: 179 (*Mistax*).
Lectotype, male, abdomen missing, Kasakeswitsch, near Chabarovsk, Russian Far East; based on a single male.

- *Thiotricha trichoma* (Caradja, 1920)

33. *Mystax trapezoidella* Caradja, 1920 - No. 176483 (Fig. 53)

Dt. ent. Z. Iris 34: 138 (*Mystax*); Bryk, 1937: 307 (*Thiotricha*); Popescu-Gorj, 1992: 178 (*Mistax*).
Lectotype, female, Kasakewitsch, near Chavarovsk, Russian Far East; further a male paralectotype (abdomen missing) is available.

- *Thiotricha trapezoidella* (Caradja, 1920)

34. *Mystax lacrimella* Caradja, 1920 - No. 176479

Dt. ent. Z. Iris 34: 138 (*Mystax*); Bryk, 1937: 522 (*Lecithocera*); Popescu-Gorj, 1992: 159 (*Mistax*).

Holotype, female, Kasakewitsch, near Chabarovsk, Russian Far East; based on a single female.

- A junior synonym of *Dichomeris rasilella* (Herrich-Shäffer, 1855).

Some Caradja's types of Gelechiidae missed in this study

1. *Ypsolophus lotellus* var. (?) *sublotellus* Caradja, 1920

Dt. ent. Z. Iris 34: 114 (*Ypsolophus*); Bryk, 1937: 439 (*Dichomeris*); Popescu-Gorj, 1992: 160.

Lectotype, female, Radde.

2. *Vadenia ribbeella* Caradja, 1920

Dt. ent. Z. Iris 34: 118 (*Vadenia*); Bryk, 1937: 12 (*Vadenia*); Popescu-Gorj, 1992: 171.

Holotype, female, Sierra Nevada 1905, Ribbe

- Taxonomic status of this species should be considered.

3. *Hypsolophus limitellus* var. *sutschanellus* Caradja, 1926, Iris: 40

Dt. ent. Z. Iris 34: 113 (*Hypsolophus*); Bryk, 1937: 438 (*Dichomeris*).

limitellus Caradja: Lectotype not designated, syntypes (3 males and 2 females), Kasakewitsch, Chabarowka (Korb) and Tjutjuje (Mau)

sutschanellus Caradja: described with a single male,

- Popescu-Gorj (1992) missed this species in his catalogue.

4. *Ypsolophus marginellus* Caradja, 1939: 12

Dt. ent. Z. Iris 53: 12 (*Ypsolophus*); Popescu-Gorj, 1992: 162.

Holotype, male, Mien-shan (Shansi Prov.) Obere Hohe ca. 2000 m, 1.7.1937, H. Höne

5. *Xystophora plusia* Caradja (Walsingham in litt.), 1920: 106

Dt. ent. Z. Iris 34: 106 (*Xystophora*); Popescu-Gorj, 1992: 169.

Lectotype, male, Kasakewitsch, gen. prep. no. 4083/Karsholt

- Taxonomic status of this species should be reconsidered.

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A. Caradja에 의해 기재된 빨나방과의 模式標本검정

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루마니아의 수도 Bucharest에 있는 "Grigore Antipa" 자연사박물관에 소장된 A. Caradja의 빨나방과 모식표본 (Type specimen) 40餘種 중 현재까지 보고되지 않았던 21種의 암수생식기를 검경, 이들을 도해하였으며, 그들의 분류학적 위치를 재정리 하였다. 타 연구자들에 의해 이미 생식기검경이 이루어졌던 13種에 대해서는 그들의 분류학적 지위가 논의 되었으며, 금번 조사기간중 표본검경이 누락된 나머지 5種은 간단히 그들의 표본정보만 수록하였다. 본 조사결과 5種은 다른 속으로 이전, 재조합 (comb. nov.)이 이루어졌으며, 4種은 새로운 synonym으로 정리 하였다.

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Explanation of figures

Plate I.

Figs 1-3. *Stomopteryx maraschella* (Caradja)-No. 176316, holotype: 1, male genitalia; 2, aedeagus; 3, 8th sternite and tergite. Figs. 4-6. *Syncopacma ussuriella* (Caradja)- No. 176317, holotype: 4, male genitalia; 5, 1st-2nd segment; 6, aedeagus. Fig. 7. *Syncopacma polychromella* (Rebel), syn. *rebeliella* Caradja-No. 176319, paralectotype: female genitalia. Figs. 8-11. *Aristotelia ericinella* Duponchel, syn. *silendrella* Caradja-No. 176334, lectotype: 8, male genitalia; 9, aedeagus; 10, 1st-2nd segments; 11, male genitalia of a European species, *A. ericinella* (Denmark, Sjaelland, Asserbo, 7. VIII. 1979, G.S. & B.E. Robinson, BM 1979-357, gen slide no. CIS-4159/Park. Figs. 12-13. *Gelechia muscosella* (Zeller), syn. *grisella* Caradja-No. 176357, lectotype: 12, male genitalia; 13, aedeagus.

Plate II.

Fig. 14. *Gelechia muscosella* (Zeller), syn. *grisella* Caradja-No. 176357, paralectotype: female genitalia. Figs. 15-17. *Evippe conjugella* (Caradja)-No. 176393, lectotype: 15, male genitalia; 16, aedeagus; 17, 1st-2nd segment. Figs. 18-21. *Scrobipalpa caliacrae* (Wocke)-No. 176404, paralectotype: 18, male genitalia; 19, aedeagus; 20, 8th tergite; 21, 8th sternite. Fig. 22. *Istrianis myricariella* (Frey), syn. *arenicolella* Caradja: female genitalia. Figs. 23-25. *Scrobipalpa ocellatella* (Boyd), syn *clarella* Caradja-No. 176380, lectotype: 23, male genitalia; 24, aedeagus ; 25, 1st-2nd segment.

Plate III.

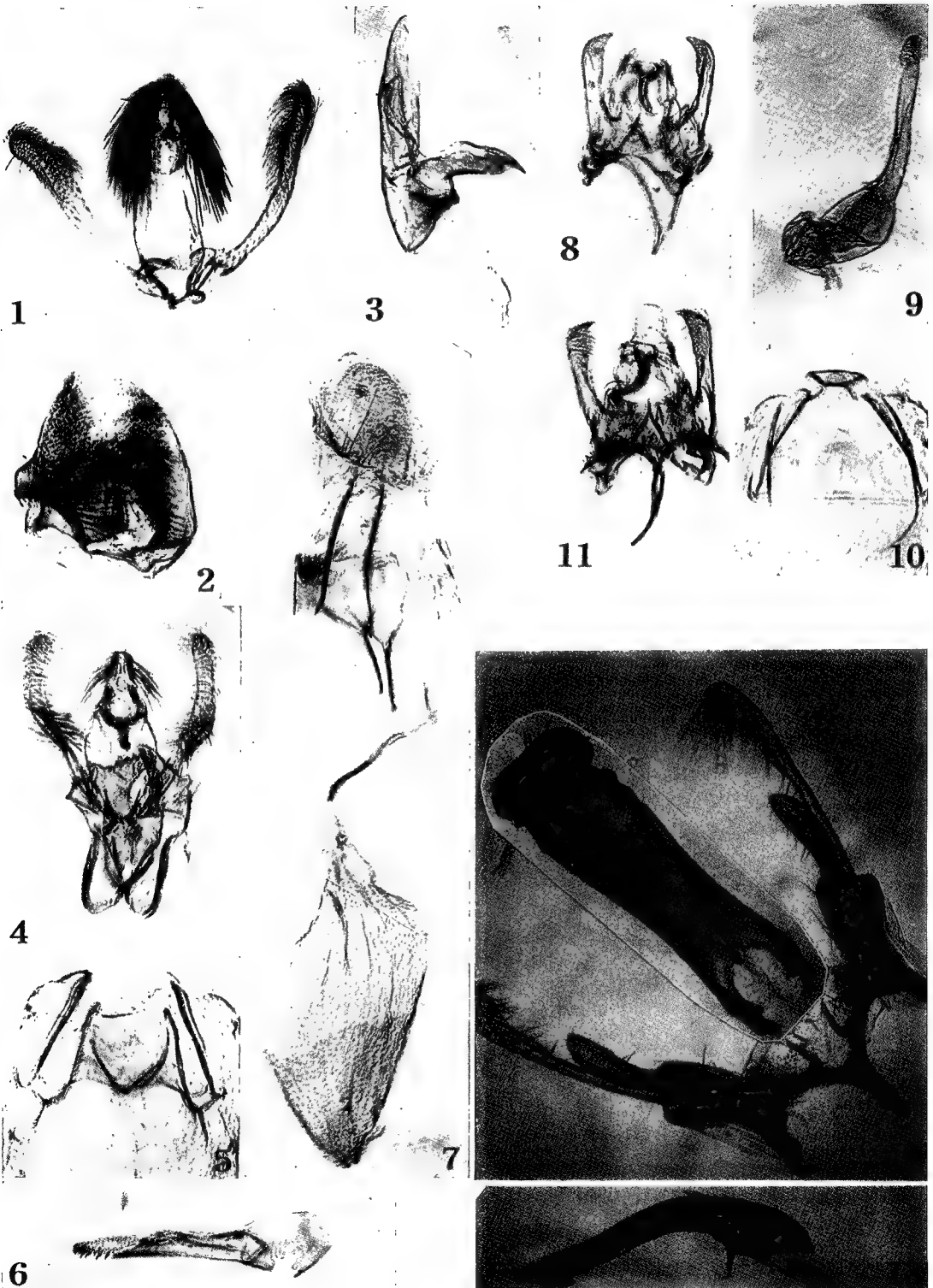
Figs 26-27. Female genitalia of *Telphusa incognitella* (Caradja)-No. 176369, holotype: 26, ostium part; 27, corpus bursae. Figs. 28-29. *Isophrictis substriatella* (Caradja)-No. 176439, lectotype: 28, male genitalia; 29, aedeagus. Figs. 30-31. *Isophrictis striatella* (Den. & Schiff.), Eger, Tihamor, 26. VI. 1972, coll. M. Reskovits, gen. slide no. CIS-4158/Park: 30, male genitalia; 31, aedeagus. Fig. 32. *Anacampsis timidella* (Wocke), syn. *suberiella* Caradja-No. 176418, lectotype: female genitalia. Figs. 33-34. *Dichomeris fuscanellella* Caradja-No. 176428, lectotype: 33, male genitalia; 34, aedeagus.

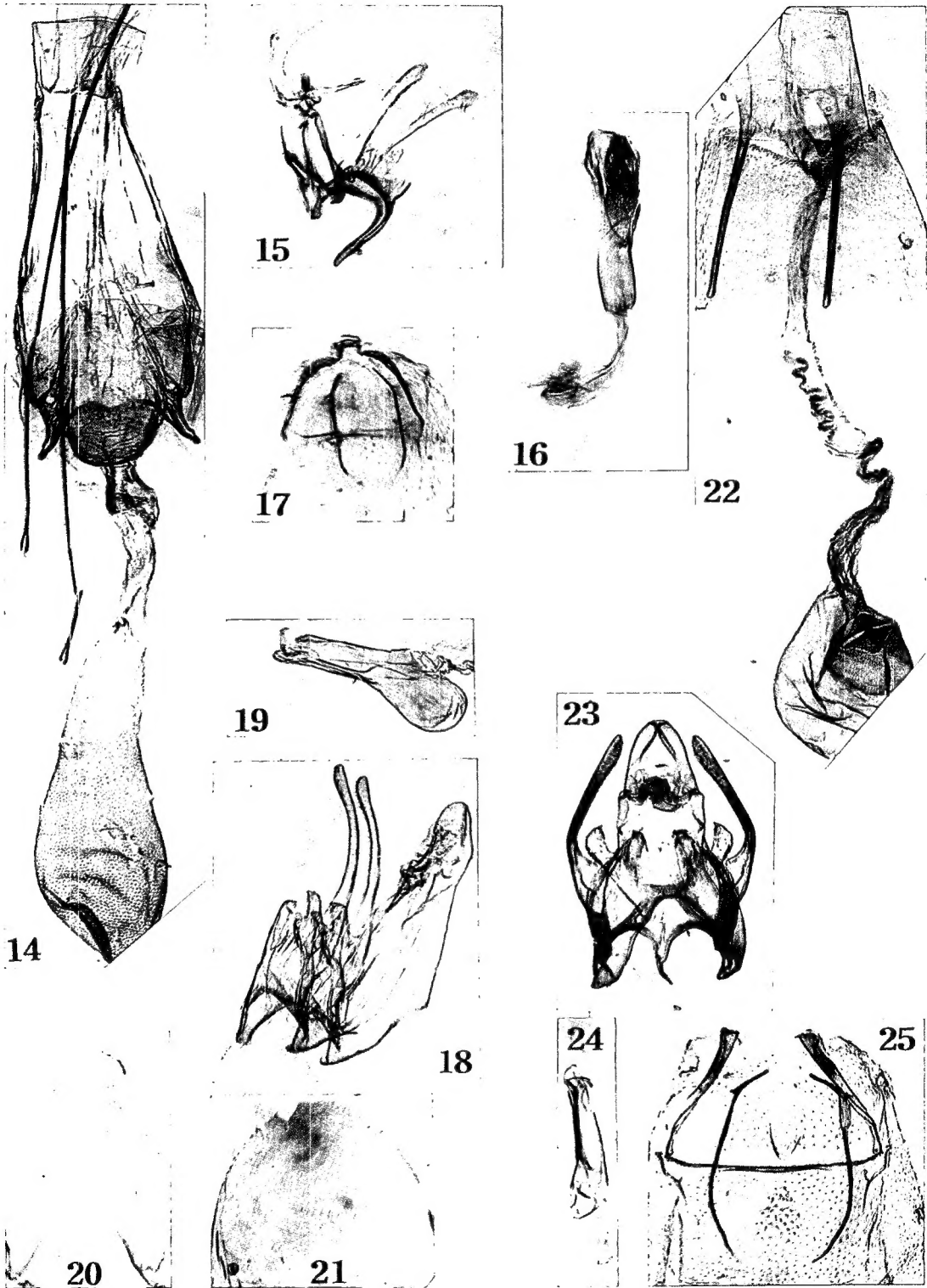
Plate IV.

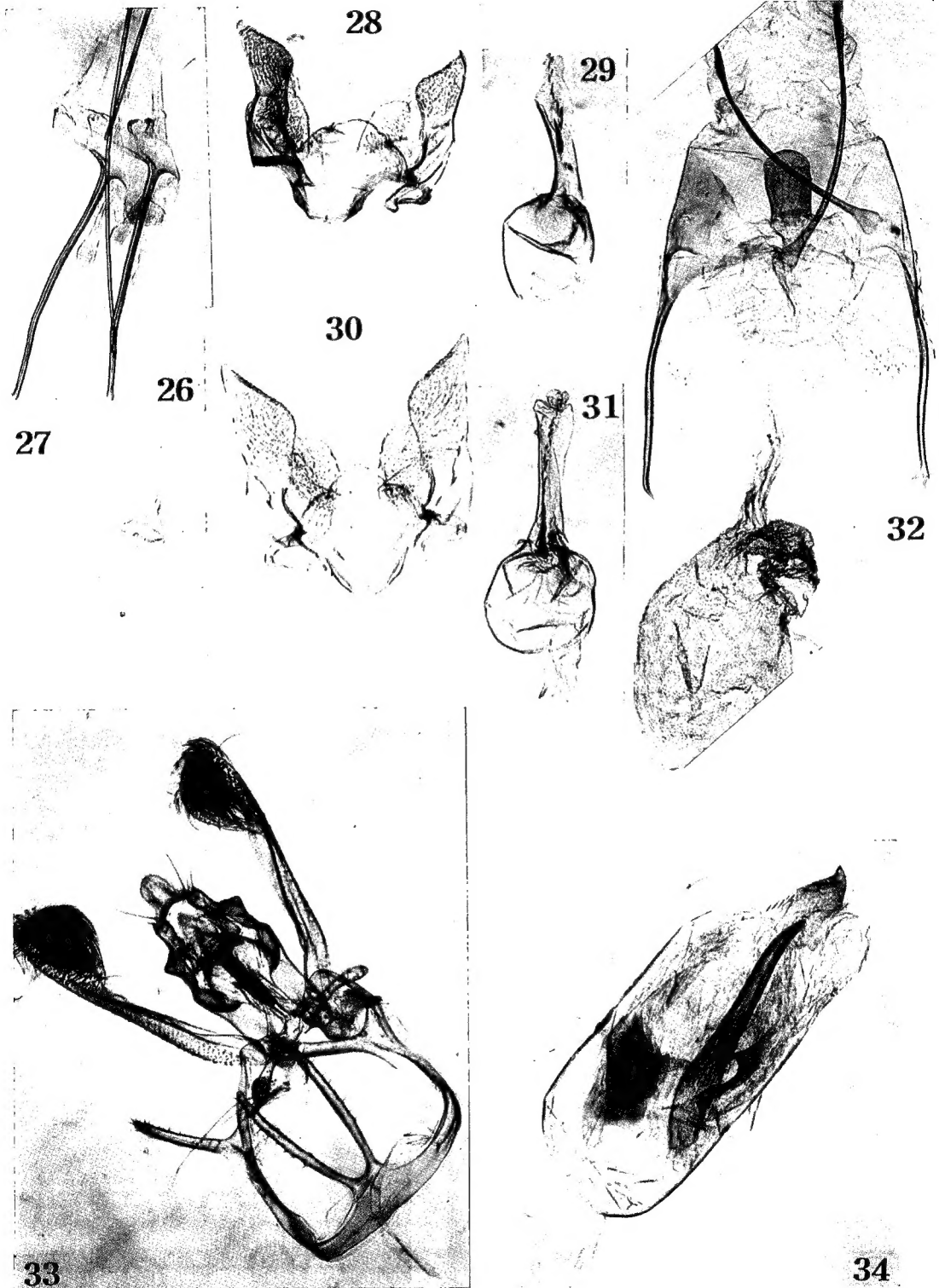
Figs 35-36. *Megacrapedes majorella* Caradja-No. 176434, lectotype: 35, male genitalia; 36, aedeagus. Figs. 37-39. *Megacrapedes imparellus* (Fisher v. Rolerst), European specimen, Zeller Coll., Walsingham collection, 1910-427, gen. slide no. CIS-4155/Park: 37, male genitalia; 38, aedeagus; 39, 1st-2nd segment. Fig. 40. *Mesophleps pudicellus* (Mann.), syn. *apicellus* Caradja- No. 176424, lectotype: female genitalia. Figs. 41-42. *Megacrapedes consortiella* Caradja-No. 176436, holotype: 41, male genitalia; 42, aedeagus. Fig. 43. *Aristotelia impunctella* (Caradja)-No. 176452, holotype: female genitalia.

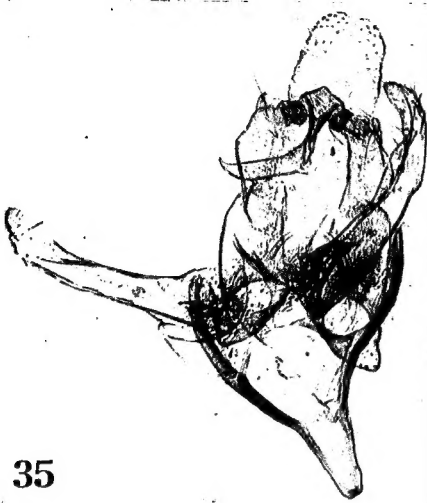
Plate V.

Figs 44-47. *Sophronia alaicella* Caradja-No. 176430, lectotype: 44, male genitalia, 45, aedeagus; 46, 1st-2nd segment; 47, 8th sternite and tergite. Figs. 48-49. *Brachmia hedemanni* Caradja-No. 176453, lectotype: 48, male genitalia; 49, aedeagus. Figs. 50-52. *Megacrapedes cuencellus* Caradja-No. 176433, holotype: 50, male genitalia; 51, aedeagus; 52, 1st-2nd segment. Fig. 53. *Thiotricha trapezoidella* (Caradja)-No. 176483, lectotype: female genitalia.









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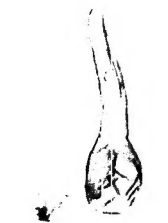
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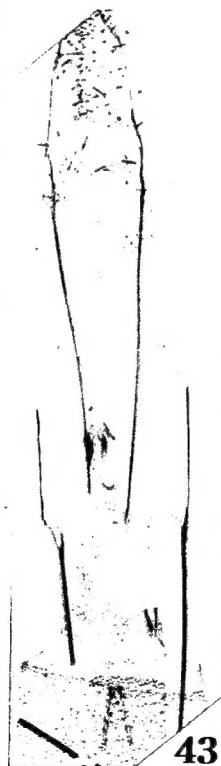
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